Remarks

The present response is to the Office Action mailed in the above-referenced case on April 15, 2004. Claims 7-13 are presented below for examination. The Examiner has rejected claim 12 under 35 U.S.C. 112, second paragraph, as being indefinite. In response, applicant herein accompanies with the present filing, a proposed drawing addition which clearly illustrates an embodiment of the present invention, wherein the air foil is adjustable in one or both of direction and/or spacing, as recited in the claim language, and supported by the description in the specification.

Claims 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by reference (JP404056631A), hereinafter '631A. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over '631A in view of ordinary skill in the art. Applicant has carefully studied the prior art presented by the Examiner, and the Examiner's rejections and statements of the instant Office Action. In response, applicant herein amends the language of claim 7 to more particularly point out and distinctly claim the patentable subject matter of applicant's invention, which the prior art reference provided by the Examiner clearly and unarguably fails to produce, suggest or intimate. Applicant further provides argument pointing out the key and patentable aspects of at applicant's invention, as recited in the claims as amended and supported in enabling detail in the specification, which clearly have advantageous and patentable distinctions over the prior art presented.

Applicant herein amends the language of claim 7 to specifically recite that the upper foil is connected to and spaced apart from the base foil by a plurality of support fins creating separate airflow direction channels, characterized in that the channels formed between the upper and lower air foils by the plurality of support

fins function to redirect airflow in a path substantially parallel to the windshield, forming a bug shield of moving air. Applicant reproduces claim 7 below as amended for convenience.

Claim 7 as amended now recites:

7. (currently amended) An airfoil for directing an airflow shield to prevent bugs and other lightweight debris from hitting the windshield of a moving vehicle comprising:

a base foil having a forward protruding lip for collecting incoming airflow and an upright curvature substantially following the angle of protrusion of the windshield from the vehicle; and

an upper foil connected to and spaced-apart from the base foil by a plurality of support fins creating a plurality of separate airflow channels, at a position elevated from and substantially parallel to the base foil;

characterized in that the channels formed between the upper and lower airfoils by the plurality of support fins function to redirect airflow in a path substantially parallel to the windshield, forming a bug shield of moving air.

Applicant now wishes to direct the Examiner's attention to applicant's specification with reference to figures 4 and 5, illustrating a front view and side view, respectively, of the airfoil apparatus of applicant's invention according to a preferred embodiment. Referring now to Fig. 4, foil 302 is held in an elevated and substantially parallel position from base foil 303 by a plurality of standoff fins 304 distributed strategically along the width of foil 301, creating multiple separate airflow direction channels, which channel the air in each separate channel in slightly different angles of direction relative to one another. This is due to the fins

disposed left of center being angled slightly to the left and the fins disposed to the right of center angled slightly to the right, as shown in the illustration. The airflow through the airfoil is thereby directed in a strategic fashion so as to spread the flow evenly over the windshield.

In contrast, the apparatus taught by reference '631A does not teach or suggest such multiple support fins creating multiple separate airflow channels, as taught in applicant's invention, and now recited in applicant base claim as amended. Referring now to '631A, a device 10 is provided to generate airflow in front of the glass and to reduce or prevent adhesion of rainwater, utilizing an inlet port in the front for gathering moving air, and a discharge port in the rear for discharging a lateral flow of air over the windshield. The invention however is quite limited in its function, compared to applicant's invention, in that that there is no teaching, suggestion or intimation of a separate upper and lower airfoil spaced between each other by a plurality of support fins which form multiple airflow direction channels from the inlet to the outlet of the apparatus. The device of '631 is provided for generating an airflow over the front glass to reduce or prevent adhesion of rainwater, while in contrast, applicant's invention teaches an airfoil for directing an airflow shield for preventing insects or other lightweight debris from striking the windshield. The reference, therefore, teaches an alternative invention with a different expected result, and the lack of a plurality of support fins forming multiple separate airflow channels within the airflow device as taught in '631, clearly distinguishes applicant's invention over that of the prior art, and there is no motivation suggested in the teachings of '631 for such arrangement of vertical support fins.

Furthermore, in addition to the unique multiple separate airflow channeling enabled by the strategic location of the plurality of support fins 304 between the upper and lower airfoils, applicant's invention has an upright

curvature substantially following the angle of protrusion of the wind from the vehicle, which provides for a smooth airflow through the airfoil device, reducing turbulence at a discharge end of the device. Said upright curvature is also recited in applicant's base claim 7. The invention of '631A, on the other hand, provides no such upright curvature; rather, the device appears to channel airflow first parallel to the surface of the hood of the vehicle, and then abruptly at the rear of the device, channels the airflow at a distinct angle upward, parallel to the windshield, not the gradual airflow direction change as provided by the curved shape of applicant's upper and lower airfoils.

In view of applicant's claim amendments, proposed drawing correction and argument provided herein, applicant is confident that the invention as recited in claim 7 as amended and described in the specification in enabling detail, is now clearly and unarguably patentable over the prior art presented by the Examiner. Claim 7 now specifically recites a plurality support fins forming multiple separate airflow direction channels characterized in that the channels function to redirect airflow in multiple paths substantially parallel to the windshield, forming a bug shield of moving air. Claim 7 is therefore patentable over the reference provided by the Examiner, and depending claim 8 is patentable on its own merits, or at least as depended from a patentable claim.

The Examiner has rejected claims 9-13 as being unpatentable over '631A in view of ordinary skill in the art. Claims 9-13 are all claims dependent from base claim 7, which is now patentable as amended over the prior art presented. Claims 9-13 are then patentable on their own merits, or at least as depended from a patentable claim.

As all of the claims standing for examination have been shown to be patentable as amended over the art of record, applicant respectfully requests reconsideration, and that the present case be passed quickly to issue. If there are

any time extensions needed beyond any extension specifically requested with this amendment, such extension of time is hereby requested. If there are any fees due beyond any fees paid with this amendment, authorization is given to deduct such fees from deposit account 50-0534.

Respectfully Submitted,

John Stephenson Neel

by 

Donald R. Boys
Reg. No. 35,074

Donald R. Boys
Central Coast Patent Agency
P.O. Box 187
Aromas, CA 95004
(831) 726-1457